Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-10 cancelled.

11. (Amended) A method for transmitting data for real-time applications and non-real-time applications in a communications network with several nodes that are connected to one another via a communication path[[s]],

wherein the data transmission between the nodes takes place in a cyclic and deterministic fashion and data for real-time applications has priority over other data such that all data for real-time applications is transmitted first during a transmission ~~cycle~~ operation and data for non-real-time applications is subsequently transmitted in the time that remains until the next transmission ~~cycle~~ operation starts, the method comprising the steps of:

at least one node ~~transmitting,~~ receiving, ~~and~~ processing and sending data for real-time applications ~~and data for non-real-time applications~~ in parallel during a real-time cycle by:

executing a first processing step, wherein ~~, in a real-time cycle, the~~ data received in a previous real-time cycle from another node via the communication path is analyzed to determine which received data are intended for real-time applications and which received data are intended for non-real-time applications;

executing a second processing step ~~including executing the~~, wherein real-time applications are executed; and

executing a third processing step ~~including the transmission of the~~, wherein data ~~to be transmitted~~ for real-time applications ~~during a transmission cycle~~ to be transmitted to another node is sent via the communication path.

12. (Amended) The method according to Claim 11, wherein, in the third processing step, the ~~comprises transmission of~~ data for real-time applications ~~in its entirety~~ is completely sent during the transmission ~~cycle~~ operation, and wherein the third processing

step further comprises calculating the time remaining until the next transmission ~~cycle~~ operation starts, in order to subsequently ~~transmit~~ send data for non-real-time applications in the remaining time.

13. (Amended) The method according to Claim 12, wherein the data is transmitted in the form of data packets[[,]] and wherein, when the time remaining after the sending of data for real-time applications exceeds the transmission time required to send a data packet for non-real-time applications, the third processing step further comprises[[:]] storing the data packet for non-real-time applications in the interim[[;]] and ~~transmitting~~ sending the stored data packet preferentially during the next transmission ~~cycle, when the time remaining after the transmission of data for real-time applications exceeds the transmission time required to transmit a data packet for real-time applications~~ operation.

14. (Amended) The method according to Claim 13, wherein the data ~~received~~ for non-real-time applications is processed independently of the data ~~received~~ for real-time applications.

15. (Amended) The method according to Claim 11, wherein the data ~~received~~ for non-real-time applications is processed independently of the data ~~received~~ for real-time applications.

16. (Amended) The method according to Claim 11, wherein the duration of the transmission operation and a reception ~~cycles~~ operation corresponds to that of the real-time cycle, and wherein the transmission ~~cycle~~ operation is delayed relative to the reception ~~cycle~~ operation by a constant period of time that corresponds to the period of time for the first and the second processing steps.

17. (Amended) The method according to Claim 16, wherein the reception ~~cycle~~ operation is started simultaneously with or shortly after the start of the real-time cycle.

18. (Amended) A node configured to carry out ~~the~~ a parallel transmission, reception and processing of data for real-time applications and data for non-real-time applications, the node comprising:

an interface unit connecting the node to a communications network including several nodes connected to one another via a communications path, the interface unit configured to cyclically and deterministically transmit data between the node and the communications network in order to handle data for real-time applications with priority over data for non-real-time applications, such that all data for real-time applications is transmitted first during a transmission ~~cycle~~ operation and data for non-real-time applications is subsequently transmitted in the time that remains until the next transmission ~~cycle~~ operation starts; and

a processing unit (CPU) operatively coupled to the interface unit, wherein, in a real-time cycle, the processing unit:

evaluates ~~the~~ data received from another node via the communication path in the respectively preceding real-time cycle in a first processing step of ~~a~~ the real-time cycle in order to determine ~~the~~ received data intended for real-time applications and ~~the~~ received data intended for non-real-time applications;

executes ~~the~~ real-time applications in a second processing step; and

transfers ~~the~~ data ~~to be transmitted~~ for real-time applications to be transmitted to another node to the interface unit ~~for actual data transmission~~ in a third processing step.

19. (Amended) The node according to Claim 18, wherein the interface unit ~~transmits~~ completely sends the data for real-time applications ~~in its entirety~~ during ~~a~~ the transmission ~~cycle~~ operation and calculates the time remaining until the next transmission ~~cycle~~ operation in order to ~~transmit~~ send data from non-real-time applications in the remaining time.

20. (Amended) The node according to Claim 19, wherein the data is transmitted in the form of data packets, and wherein the interface unit includes a buffer that stores ~~the~~ a data packet for non-real-time applications in the interim if the time remaining after the

~~transmission~~ sending of data for real-time applications is exceeded by the transmission time required to ~~transmit a~~ send the data packet for non-real-time applications, with the stored data packet preferentially ~~transmitted~~ sent during the next transmission ~~cycle~~ operation.

21. (Previously Presented) The node according to Claim 20, wherein the processing unit processes the received data for real-time applications and the received data for non-real-time applications independently of one another.

22. (Previously Presented) The node according to Claim 18, wherein the processing unit processes the received data for real-time applications and the received data for non-real-time applications independently of one another.

23. (Amended) The node according to Claim 18, wherein the data is transmitted in the form of data packets, and wherein the interface unit includes a buffer that stores ~~the~~ a data packet for non-real-time applications in the interim if the time remaining after the ~~transmission~~ sending of data for real-time applications is exceeded by the transmission time required to ~~transmit a~~ send the data packet for non-real-time applications, with the stored data packet preferentially ~~transmitted~~ sent during the next transmission ~~cycle~~ operation.